* *
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AFTER PRODUCTION HOURS (AT 10:00 P.M.) ON WEDNESDAY, 01/27/99,
SEVERAL PTONET DEVICES WILL BE RECONFIGURED TO ENHANCE NETWORK OPERATIONS. USERS OF PATENT EXAMINER SEARCH TOOLS MUST RE-BOOT THEIR INDIVIDUAL DESKTOP WORKSTATIONS AT THE START OF THE BUSINESS DAY ON THURSDAY, 01/28/99 TO INSURE THAT NECESSARY FILES ON THEIR WORKSTATION GET UPDATED. THIS WILL ENSURE IMMEDIATE AND ACCURATE ACCESS TO ALL OF THE PATENT EXAMINER SEARCH TOOLS. THANK YOU FOR YOUR COOPERATION

* *
* * PLEASE USE 305-9000 FOR NEW TELEPHONE NUMBER * *
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* and New Year's Day. *

* *
FILE 'USPAT' ENTERED AT 11:10:55 ON 15 MAR 1999
* *
* W E L C O M E T O T H E *
* U. S. P A T E N T T E X T F I L E *
* *

=> activate comclm/q

L1 QUE ((LIBRAR#### OR ARRAY# OR IDENTIF#### OR COLLECTION# OR COMBINATORIAL OR RANDOM OR MIXTURES OR PLURALITIES)(6A)(MOLECULE# OR CHEMICAL# OR CHEMIST##### OR SYNTHESI#### OR COMBINATORIAL))/CLM NOT PY<1989

=> set high off

SET COMMAND COMPLETED

=> s l1

```
     2020 LIBRAR####/CLM
    64196 ARRAY#/CLM
    53354 IDENTIF####/CLM
    17436 COLLECTION#/CLM
      615 COMBINATORIAL/CLM
    21925 RANDOM/CLM
    67910 MIXTURES/CLM
     5189 PLURALITIES/CLM
    26662 MOLECULE#/CLM
    34400 CHEMICAL#/CLM
      676 CHEMIST#####/CLM
    14656 SYNTHESI####/CLM
      615 COMBINATORIAL/CLM
     1421 ((LIBRAR#### OR ARRAY# OR IDENTIF#### OR COLLECTION# OR COMBIN
          ATORIAL OR RANDOM OR MIXTURES OR PLURALITIES)(6A)(MOLECULE# OR
          CHEMICAL# OR CHEMIST##### OR SYNTHESI#### OR COMBINATORIAL
          ))/
          CLM
  1232382 PY<1989
L2    932 ((LIBRAR#### OR ARRAY# OR IDENTIF#### OR COLLECTION# OR COMBIN
          ATORIAL OR RANDOM OR MIXTURES OR PLURALITIES)(6A)(MOLECULE# OR
          CHEMICAL# OR CHEMIST##### OR SYNTHESI#### OR COMBINATORIAL
          ))/
          CLM NOT PY<1989
```

=> set high on

SET COMMAND COMPLETED

=> s l2 and (cleav#### or releas### or separat####) (5a) (support# of link#)

```
    46424 CLEAV####
   537964 RELEAS###
  1283318 SEPARAT####
   814989 SUPPORT#
   182732 LINK#
     1731 SUPPORT# OF LINK#
            (SUPPORT#(1W)LINK#)
       27 (CLEAV#### OR RELEAS### OR SEPARAT####) (5A) (SUPPORT# OF L
```

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INK
                #)
L3            0 L2 AND (CLEAV#### OR RELEAS### OR
SEPARAT####) (5A) (SUPPOR
T#
                OF LINK#)

=> s l2 and (cleav#### or releas### or separat####) (10a)
(support# of link?)

         46424 CLEAV####
        537964 RELEAS###
       1283318 SEPARAT####
        814989 SUPPORT#
        379703 LINK?
          2825 SUPPORT# OF LINK?
                 (SUPPORT#(1W)LINK?)
           104 (CLEAV#### OR RELEAS### OR SEPARAT####)
(10A) (SUPPORT# OF
LIN
               K?)
L4            1 L2 AND (CLEAV#### OR RELEAS### OR
SEPARAT####) (10A) (SUPPO
RT#
                OF LINK?)

=> d cit hit

1.  5,877,214, Mar. 2, 1999, Polyaryl-poly(ethylene glycol)
supports for
solution-phase combinatorial synthesis; Ronald M. Kim,
514/571, 576, 650;
562/42, 426, 452, 470; 564/337, 346, 348, 355; 568/62, 607,
609 [IMAGE
AVAILABLE]

US PAT NO:      5,877,214 [IMAGE AVAILABLE]             L4:
1 of 1

SUMMARY:

BSUM(51)

 By the term "synthon" is meant any chemical moiety which
may be
synthetically manipulated to permit its covalent linking to
a support or
to another synthon. To facilitate the separation of the
synthon from the
polyvalent support it is preferred that the synthon be
attached via a
chemically **cleavable** linker. Upon **cleavage** from the
**support**,
the **linked** synthons comprise discrete molecular
entities which may be
analyzed for their biological activity or physiochemical
properties, or
which may be subjected to further chemical modification.

=> d date

                                                        L4:
1 of 1
TITLE:          Polyaryl-poly(ethylene glycol) supports for
solution-phase
                  combinatorial synthesis
US PAT NO:      5,877,214               DATE ISSUED:    Mar.
2, 1999
                [IMAGE AVAILABLE]
APPL-NO:        08/923,299              DATE FILED:     Sep.
4, 1997

=> s l2 and (cleav#### or releas### or separat####) (p)
(support# of link?)

         46424 CLEAV####
        537964 RELEAS###
       1283318 SEPARAT####
        814989 SUPPORT#
        379703 LINK?
          2825 SUPPORT# OF LINK?
                 (SUPPORT#(1W)LINK?)
           384 (CLEAV#### OR RELEAS### OR SEPARAT####) (P)
(SUPPORT# OF LI
NK?
                )
L5            6 L2 AND (CLEAV#### OR RELEAS### OR
SEPARAT####) (P) (SUPPORT
# O
                F LINK?)

=> s l5 not l4

L6            5 L5 NOT L4

=> d 1-5 cit kwic

1.  5,846,839, Dec. 8, 1998, Methods for hard-tagging an
encoded
synthetic library; Mark A. Gallop, et al., 436/518;
435/7.1; 436/85, 501,
528, 531 [IMAGE AVAILABLE]

US PAT NO:      5,846,839 [IMAGE AVAILABLE]             L6:
1 of 5

DETDESC:

DETD(13)

 Reversible covalent **cleavable** linkages can be used to
attach the
molecules to the support. Examples of suitable reversible
chemical
linkages include (1) a sulfoester linkage provided by,
e.g., a thiolated
tagged-molecule and a N-hydroxy-succinimidyl **support**,
which
**linkage** can be controlled by adjustment of the ammonium
hydroxide
concentration; (2) a benzylhydryl or benzylamide linkage
provided by,
e.g., a.  .  .  from Sigma), which linkage can be
controlled by
adjustment of the DTT (dithiothreitol) concentration; and
(4) linkers
which can be **cleaved** with a transition metal (e.g.
HYCRAM).

2.  5,751,629, May 12, 1998, Remotely programmable matrices
with
memories; Michael P. Nova, et al., 365/151, 153 [IMAGE
AVAILABLE]

US PAT NO:      5,751,629 [IMAGE AVAILABLE]             L6:
2 of 5

SUMMARY:

BSUM(8)

 Following hybridization of a detection oligonucleotide
with a target,
the resulting signal-generating hybrid molecules must be
**separated**
from unreacted target and detection oligonucleotides. In
order to do so,
many of the commonly used assays immobilize the target.  .
.  adducts
formed in solution [see, e.g., EP 276,302 and Gingeras et
al. (1989)
Proc. Natl. Acad. Sci. USA 86:1173]. Solid **supports**
with **linked**
oligonucleotides are also used in methods of affinity
purification.
Following hybridization or affinity purification, however,
if
identification of the linked.  .  .

3.  5,663,046, Sep. 2, 1997, Synthesis of combinatorial
libraries; John
```

J. Baldwin, et al., 435/6, 7.1; 436/501, 518, 531, 533; 530/333, 334;
536/18.5, 25.3 [IMAGE AVAILABLE]

US PAT NO: 5,663,046 [IMAGE AVAILABLE] L6: 3 of 5

SUMMARY:

BSUM(71)

The . . . Y. Compound 7 is then either exposed to UV light
(.about.360 nm) in a lower alkanol such as MeOH to **cleave** the
protected form of the compounds of Formula II from the **support**/**linker** complex or first treated with TFA/thioanisole/EDT
to remove the protecting groups on the R.sup.2 sidechains and then
exposed to UV light in a lower alkanol such as MeOH to **cleave**
compound II. ##STR3##

4. 5,604,097, Feb. 18, 1997, Methods for sorting polynucleotides using
oligonucleotide tags; Sydney Brenner, 435/6; 536/25.4 [IMAGE AVAILABLE]

US PAT NO: 5,604,097 [IMAGE AVAILABLE] L6: 4 of 5

DETDESC:

DETD(41)

Tag complements may be used with the solid phase support that they are
synthesized on, or they may be **separately** synthesized and attached to
a solid phase support for use, e.g. as disclosed by Lund et al, Nucleic
Acids Research,. . . employed depends on the conditions under which
the tags are used. For example, in applications involving successive
processing with enzymes, **supports** and **linkers** that minimize
steric hinderance of the enzymes and that facilitate access to substrate
are preferred. Exemplary linking moieties are disclosed. .
.

5. 5,549,974, Aug. 27, 1996, Methods for the solid phase synthesis of
thiazolidinones, metathiazanones, and derivatives thereof; Christopher P.
Holmes, 428/403, 406, 407, 411.1, 426, 457; 544/54; 548/182 [IMAGE
AVAILABLE]

US PAT NO: 5,549,974 [IMAGE AVAILABLE] L6: 5 of 5

DETDESC:

DETD(143)

Reversible . . . Examples of suitable reversible chemical linkages
include (1) a sulfoester linkage provided by, e.g., a thiolated
tagged-molecule and a N-hydroxysuccinimidyl **support**, which
linkage can be controlled by adjustment of the ammonium hydroxide
concentration; (2) an benzylhydryl or benzylamide linkage provided by,
e.g., a. . . from Sigma), which linkage can be controlled by
adjustment of the DTT (dithiothreitol) concentration; and (4) linkers
which can be **cleaved** with a transition metal (i.e. HYCRAM).

=> d 1-5cit date

'1-5CIT' IS NOT A VALID FORMAT FOR FILE 'USPAT'
ENTER DISPLAY FORMAT (CIT):end

=> d 1-5 cit date

1. 5,846,839, Dec. 8, 1998, Methods for hard-tagging an encoded
synthetic library; Mark A. Gallop, et al., 436/518; 435/7.1; 436/85, 501,
528, 531 [IMAGE AVAILABLE]

L6: 1 of 5
TITLE: Methods for hard-tagging an encoded synthetic library
US PAT NO: 5,846,839 DATE ISSUED: Dec. 8, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/577,203 DATE FILED: Dec. 22, 1995

2. 5,751,629, May 12, 1998, Remotely programmable matrices with
memories; Michael P. Nova, et al., 365/151, 153 [IMAGE AVAILABLE]

L6: 2 of 5
TITLE: Remotely programmable matrices with memories
US PAT NO: 5,751,629 DATE ISSUED: May 12, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/484,504 DATE FILED: Jun. 7, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 428,662, Apr. 25, 1995.

3. 5,663,046, Sep. 2, 1997, Synthesis of combinatorial libraries; John
J. Baldwin, et al., 435/6, 7.1; 436/501, 518, 531, 533; 530/333, 334;
536/18.5, 25.3 [IMAGE AVAILABLE]

L6: 3 of 5
TITLE: Synthesis of combinatorial libraries
US PAT NO: 5,663,046 DATE ISSUED: Sep. 2, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/263,804 DATE FILED: Jun. 22, 1994

4. 5,604,097, Feb. 18, 1997, Methods for sorting polynucleotides using
oligonucleotide tags; Sydney Brenner, 435/6; 536/25.4 [IMAGE AVAILABLE]

L6: 4 of 5
TITLE: Methods for sorting polynucleotides using oligonucleotide
tags
US PAT NO: 5,604,097 DATE ISSUED: Feb. 18, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/358,810 DATE FILED: Dec. 19, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 322,348, Oct. 13, 1994,
abandoned.

5. 5,549,974, Aug. 27, 1996, Methods for the solid phase synthesis of
thiazolidinones, metathiazanones, and derivatives thereof; Christopher P.

```
Holmes, 428/403, 406, 407, 411.1, 426, 457; 544/54; 548/182
[IMAGE
AVAILABLE]

                                                    L6:
5 of 5
TITLE:          Methods for the solid phase synthesis of
thiazolidinones,
                metathiazanones, and derivatives thereof
US PAT NO:      5,549,974                DATE ISSUED:    Aug.
27, 1996
                [IMAGE AVAILABLE]
APPL-NO:        08/265,090               DATE FILED:     Jun.
23, 1994

=> d saved

NAME            CREATED      NOTES/TITLE
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COMCLM/Q        02 FEB 1999  QUERY CREATED IN FILE USPAT
COMLIB/Q        12 MAY 1998  QUERY CREATED IN FILE USPAT
PCTUS9715493/L  08 OCT 1997  5 L-NUMBERS
SAVEALL/L       17 FEB 1998  7 L-NUMBERS
TEST/Q          01 OCT 1997  QUERY CREATED IN FILE USPAT

=> activate comlib/q

L7              QUE  (LIBRAR#### OR ARRAY# OR MULTIP###### OR
COLLECTION#
                 OR COMBINATORIAL OR RANDOM) (6A)(MOLECULE# OR
CHEMICAL#
                OR CHEMIST##### OR SYNTHE##### OR
COMBINATORIAL)

=> set high off

SET COMMAND COMPLETED

=> s l7

         22089 LIBRAR####
        193467 ARRAY#
        568027 MULTIP######
        114017 COLLECTION#
          4323 COMBINATORIAL
        157587 RANDOM
        176703 MOLECULE#
        438541 CHEMICAL#
         96056 CHEMIST#####
        373500 SYNTHE#####
          4323 COMBINATORIAL
L8       14398 (LIBRAR#### OR ARRAY# OR MULTIP###### OR
COLLECTION# OR COM
BIN
              ATORIAL OR RANDOM) (6A)(MOLECULE# OR
CHEMICAL# OR CHEMIST##
###
               OR SYNTHE##### OR COMBINATORIAL)

=>  set high on

SET COMMAND COMPLETED

=> s l8 and (cleav#### or releas### or separat####) (p)
(support# of link?)

         46424 CLEAV####
        537964 RELEAS###
       1283318 SEPARAT####
        814989 SUPPORT#
        379703 LINK?
          2825 SUPPORT# OF LINK?
                 (SUPPORT#(1W)LINK?)
           384 (CLEAV#### OR RELEAS### OR SEPARAT####) (P)
(SUPPORT# OF LI
NK?
              )
L9            50 L8 AND (CLEAV#### OR RELEAS### OR
SEPARAT####) (P) (SUPPORT
# O
              F LINK?)

=> d 1-150 cit date

     50 ANSWERS ARE AVAILABLE. SPECIFIED ANSWER NUMBER
L6: EXCEEDS ANSWER SET
    SIZE
    ENTER ANSWER NUMBER OR RANGE (1):1-50

1.  5,877,214, Mar. 2, 1999, Polyaryl-poly(ethylene glycol)
supports for
solution-phase combinatorial synthesis; Ronald M. Kim,
514/571, 576, 650;
562/42, 426, 452, 470; 564/337, 346, 348, 355; 568/62, 607,
609 [IMAGE
AVAILABLE]

                                                    L9:
1 of 50
TITLE:          Polyaryl-poly(ethylene glycol) supports for
solution-phase
                  combinatorial synthesis
US PAT NO:      5,877,214                DATE ISSUED:    Mar.
2, 1999
                [IMAGE AVAILABLE]
APPL-NO:        08/923,299               DATE FILED:     Sep.
4, 1997

2.  5,876,930, Mar. 2, 1999, Hybridization assay using
self-quenching
fluorescence probe; Kenneth J. Livak, et al., 435/6, 5,
91.1, 91.2;
536/24.3, 24.32, 24.33, 25.3, 25.32, 26.6 [IMAGE AVAILABLE]

                                                    L9:
2 of 50
TITLE:          Hybridization assay using self-quenching
fluorescence
                ' probe
US PAT NO:      5,876,930                DATE ISSUED:    Mar.
2, 1999
                [IMAGE AVAILABLE]
APPL-NO:        08/558,303               DATE FILED:     Nov.
15, 1995
REL-US-DATA:    Continuation of Ser. No. 340,558, Nov. 16,
1994, Pat. No.
                  5,538,848.

3.  5,874,532, Feb. 23, 1999, Method for solution phase
synthesis of
oligonucleotides and peptides; Wolfgang Pieken, et al.,
530/338, 322;
536/25.3, 25.34; 562/433 [IMAGE AVAILABLE]

                                                    L9:
3 of 50
TITLE:          Method for solution phase synthesis of
oligonucleotides
                  and peptides
US PAT NO:      5,874,532                DATE ISSUED:    Feb.
23, 1999
                [IMAGE AVAILABLE]
APPL-NO:        08/780,517               DATE FILED:     Jan.
8, 1997

4.  5,874,214, Feb. 23, 1999, Remotely programmable
matrices with
memories; Michael P. Nova, et al., 435/6; 365/151, 153;
422/58, 68.1,
82.01, 82.05, 82.12; 424/422, 489; 435/7.8, 7.92 [IMAGE
AVAILABLE]

                                                    L9:
4 of 50
TITLE:          Remotely programmable matrices with memories
US PAT NO:      5,874,214                DATE ISSUED:    Feb.
23, 1999
                [IMAGE AVAILABLE]
APPL-NO:        08/538,387               DATE FILED:     Oct.
3, 1995
REL-US-DATA:    Continuation-in-part of Ser. No. 480,147,
Jun. 7, 1995,
```

Ser. No. 484,486, Jun. 7, 1995, Ser. No. 484,504, Jun. 7, 1995, Pat. No. 5,751,629, Ser. No. 480,196, Jun. 7, 1995, Ser. No. 473,660, Jun. 7, 1995, and Ser. No. 428,662, Apr. 25, 1995, Pat. No. 5,741,462, said Ser. No. 480,147, Ser. No. 484,486, Ser. No. 484,504, Ser. No. 480,196, and Ser. No. 473,660, each Ser. No. is a continuation-in-part of Ser. No. 428,662.

5. 5,872,244, Feb. 16, 1999, 3' protected nucleotides for enzyme catalyzed template-independent creation of phosphodiester bonds; Andrew C. Hiatt, et al., 536/26.26, 26.6, 26.7 [IMAGE AVAILABLE]

L9: 5 of 50

TITLE: 3' protected nucleotides for enzyme catalyzed template-independent creation of phosphodiester bonds
US PAT NO: 5,872,244 DATE ISSUED: Feb. 16, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/486,535 DATE FILED: Jun. 7, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 300,484, Sep. 2, 1994.

6. 5,864,031, Jan. 26, 1999, Process for preparing 5-dithio-modified oligonucleotides; Sandra E. Russo-Rodriguez, et al., 536/25.34, 25.3 [IMAGE AVAILABLE]

L9: 6 of 50

TITLE: Process for preparing 5-dithio-modified oligonucleotides
US PAT NO: 5,864,031 DATE ISSUED: Jan. 26, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/282,383 DATE FILED: Jul. 29, 1994

7. 5,863,722, Jan. 26, 1999, Method of sorting polynucleotides; Sydney Brenner, 435/6; 536/24.3 [IMAGE AVAILABLE]

L9: 7 of 50

TITLE: Method of sorting polynucleotides
US PAT NO: 5,863,722 DATE ISSUED: Jan. 26, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/485,105 DATE FILED: Jun. 7, 1995
REL-US-DATA: Continuation of Ser. No. 359,295, Dec. 19, 1994, which is a continuation-in-part of Ser. No. 322,348, Oct. 13, 1994, abandoned.

8. 5,861,532, Jan. 19, 1999, Solid-phase synthesis of N-alkyl amides; Edward G. Brown, et al., 564/142; 436/85, 86; 564/133, 134, 135, 136, 137, 139 [IMAGE AVAILABLE]

L9: 8 of 50

TITLE: Solid-phase synthesis of N-alkyl amides
US PAT NO: 5,861,532 DATE ISSUED: Jan. 19, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/813,019 DATE FILED: Mar. 4, 1997

9. 5,859,233, Jan. 12, 1999, Synthons for synthesis of oligonucleotide N3-P5 phosphoramidates; Bernard L. Hirschbein, et al., 536/26.1, 26.12, 26.14 [IMAGE AVAILABLE]

L9: 9 of 50

TITLE: Synthons for synthesis of oligonucleotide N3-P5 phosphoramidates
US PAT NO: 5,859,233 DATE ISSUED: Jan. 12, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/771,789 DATE FILED: Dec. 20, 1996
REL-US-DATA: Continuation-in-part of Ser. No. 663,918, Jun. 14, 1996, which is a continuation-in-part of Ser. No. 603,566, Feb. 21, 1996, Pat. No. 5,684,143.

10. 5,846,841, Dec. 8, 1998, Motif Libraries; Nikolai Sepetov, et al., 436/518; 435/7.1; 436/501; 530/333, 334 [IMAGE AVAILABLE]

L9: 10 of 50

TITLE: Motif Libraries
US PAT NO: 5,846,841 DATE ISSUED: Dec. 8, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/754,878 DATE FILED: Nov. 22, 1996
REL-US-DATA: Continuation of Ser. No. 246,435, May 20, 1994, abandoned.

11. 5,846,839, Dec. 8, 1998, Methods for hard-tagging an encoded synthetic library; Mark A. Gallop, et al., 436/518; 435/7.1; 436/85, 501, 528, 531 [IMAGE AVAILABLE]

L9: 11 of 50

TITLE: Methods for hard-tagging an encoded synthetic library
US PAT NO: 5,846,839 DATE ISSUED: Dec. 8, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/577,203 DATE FILED: Dec. 22, 1995

12. 5,846,731, Dec. 8, 1998, Peralkylated oligopeptide mixtures; Richard A. Houghten, et al., 435/7.1, 7.2, 7.32; 436/501, 518, 536; 530/323, 332, 333, 334, 345 [IMAGE AVAILABLE]

L9: 12 of 50

TITLE: Peralkylated oligopeptide mixtures
US PAT NO: 5,846,731 DATE ISSUED: Dec. 8, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/079,144 DATE FILED: Jun. 17, 1993

13. 5,846,719, Dec. 8, 1998, Oligonucleotide tags for sorting and identification; Sydney Brenner, et al., 435/6; 536/23.1, 24.2, 24.3, 25.4 [IMAGE AVAILABLE]

L9: 13 of 50

TITLE: Oligonucleotide tags for sorting and identification
US PAT NO: 5,846,719 DATE ISSUED: Dec. 8, 1998
[IMAGE AVAILABLE]

APPL-NO: 08/659,453 DATE FILED: Jun. 6, 1996
REL-US-DATA: Continuation-in-part of Ser. No. 358,810, Dec. 19, 1994,
Pat. No. 5,604,097, which is a continuation-in-part of
Ser. No. 322,348, Oct. 13, 1994, abandoned.

14. 5,840,485, Nov. 24, 1998, Topologically segregated, encoded solid
phase libraries; Michal Lebl, et al., 435/6, 7.1; 436/518; 530/300, 323;
536/23.1 [IMAGE AVAILABLE]

L9:

14 of 50
TITLE: Topologically segregated, encoded solid phase libraries
US PAT NO: 5,840,485 DATE ISSUED: Nov. 24, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/249,830 DATE FILED: May 26, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 68,327, May 27, 1993,
abandoned.

15. 5,824,793, Oct. 20, 1998, Solid phase synthesis of oligonucleotide
N3'-P5' phosphoramidates; Bernard L. Hirschbein, et al., 536/25.34, 25.3,
25.33 [IMAGE AVAILABLE]

L9:

15 of 50
TITLE: Solid phase synthesis of oligonucleotide N3'-P5'
phosphoramidates
US PAT NO: 5,824,793 DATE ISSUED: Oct. 20, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/663,918 DATE FILED: Jun. 14, 1996
REL-US-DATA: Continuation-in-part of Ser. No. 603,566, Feb. 21, 1996,
Pat. No. 5,684,143.

16. 5,821,130, Oct. 13, 1998, Combinatorial dihydrobenzopyran library;
John J. Baldwin, et al., 436/518, 523, 524, 525, 526, 527, 528, 529, 530,
531; 564/183, 184, 186 [IMAGE AVAILABLE]

L9:

16 of 50
TITLE: Combinatorial dihydrobenzopyran library
US PAT NO: 5,821,130 DATE ISSUED: Oct. 13, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/552,698 DATE FILED: Nov. 3, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 436,120, May 8, 1995,
abandoned, which is a continuation-in-part of Ser. No.
239,302, May 6, 1994, abandoned.

17. 5,817,751, Oct. 6, 1998, Method for synthesis of diketopiperazine
and diketomorpholine derivatives; Anna Katrin Szardenings, et al.,
530/317, 334; 544/170 [IMAGE AVAILABLE]

L9:

17 of 50
TITLE: Method for synthesis of diketopiperazine and diketomorpholine derivatives
US PAT NO: 5,817,751 DATE ISSUED: Oct. 6, 1998
[IMAGE AVAILABLE]

APPL-NO: 08/731,362 DATE FILED: Oct. 11, 1996
REL-US-DATA: Continuation-in-part of Ser. No. 670,713, Jun. 18, 1996,
and a continuation-in-part of Ser. No. 393,318, Feb. 22,
1995, abandoned, which is a continuation-in-part of Ser.
No. 265,578, Jun. 23, 1994, abandoned.

18. 5,808,045, Sep. 15, 1998, Compositions for enzyme catalyzed
template-independent creation of phosphodiester bonds using protected
nucleotides; Andrew C. Hiatt, et al., 536/26.26, 26.7,
L9: 26.71, 26.72,
26.74, 26.8 [IMAGE AVAILABLE]

L9:

18 of 50
TITLE: Compositions for enzyme catalyzed template-independent
creation of phosphodiester bonds using protected
nucleotides
US PAT NO: 5,808,045 DATE ISSUED: Sep. 15, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/486,897 DATE FILED: Jun. 7, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 300,484, Sep. 2, 1994,
abandoned.

19. 5,763,594, Jun. 9, 1998, 3' protected nucleotides for enzyme
catalyzed template-independent creation of phosphodiester bonds; Andrew
C. Hiatt, et al., 536/25.3; 435/6; 536/25.1, 25.31, 25.32, 25.33, 25.34,
26.1 [IMAGE AVAILABLE]

L9:

19 of 50
TITLE: 3' protected nucleotides for enzyme catalyzed
template-independent creation of phosphodiester bonds
US PAT NO: 5,763,594 DATE ISSUED: Jun. 9, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/486,913 DATE FILED: Jun. 7, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 300,484, Sep. 2, 1994.

20. 5,763,193, Jun. 9, 1998, Peralkylated oligopeptide mixtures; Richard
A. Houghten, et al., 435/7.1, 7.2, 7.21; 436/501, 518 [IMAGE AVAILABLE]

L9:

20 of 50
TITLE: Peralkylated oligopeptide mixtures
US PAT NO: 5,763,193 DATE ISSUED: Jun. 9, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/577,846 DATE FILED: Dec. 22, 1995
REL-US-DATA: Division of Ser. No. 257,782, Jun. 9, 1994, Pat. No.
5,480,971, which is a continuation-in-part of Ser. No.
79,144, Jun. 17, 1993.

21. 5,756,810, May 26, 1998, Process of preparing 3-nitro benzoate
compounds in lower alkanol; John J. Baldwin, et al., 560/20, 23 [IMAGE
AVAILABLE]

21 of 50
TITLE: Process of preparing 3-nitro benzoate compounds in lower alkanol
US PAT NO: 5,756,810 DATE ISSUED: May 26, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/714,065 DATE FILED: Sep. 11, 1996
PCT-NO: PCT/US95/03223 PCT-FILED: Mar. 10, 1995
371-DATE: Sep. 11, 1996
102(E)-DATE: Sep. 11, 1996
PCT-PUB-NO: WO95/24186 PCT-PUB-DATE: Sep. 14, 1995

22. 5,751,629, May 12, 1998, Remotely programmable matrices with memories; Michael P. Nova, et al., 365/151, 153 [IMAGE AVAILABLE]

L9:

22 of 50
TITLE: Remotely programmable matrices with memories
US PAT NO: 5,751,629 DATE ISSUED: May 12, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/484,504 DATE FILED: Jun. 7, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 428,662, Apr. 25, 1995.

23. 5,741,462, Apr. 21, 1998, Remotely programmable matrices with memories; Michael P. Nova, et al., 422/68.1, 50, 57, 58, 82.05, 99, 102, 104; 435/5, 6, 7.1, 7.2, 7.9, 91.1; 436/161, 163, 501, 518, 523, 524, 528; 702/19, 22, 27, 30 [IMAGE AVAILABLE]

L9:

23 of 50
TITLE: Remotely programmable matrices with memories
US PAT NO: 5,741,462 DATE ISSUED: Apr. 21, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/428,662 DATE FILED: Apr. 25, 1995

24. 5,723,591, Mar. 3, 1998, Self-quenching fluorescence probe; Kenneth J. Livak, et al., 536/22.1, 23.1, 24.3, 25.3, 25.32 [IMAGE AVAILABLE]

L9:

24 of 50
TITLE: Self-quenching fluorescence probe
US PAT NO: 5,723,591 DATE ISSUED: Mar. 3, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/559,405 DATE FILED: Nov. 15, 1995
REL-US-DATA: Continuation of Ser. No. 340,558, Nov. 16, 1994, Pat. No. 5,538,848.

25. 5,714,606, Feb. 3, 1998, Pyrrolidine-containing monomers and oligomers; Oscar L. Acevedo, et al., 544/243, 35, 102, 104, 244, 262, 264, 267, 277, 299, 309, 311, 313, 314, 317, 335; 548/112, 314.7, 361.1, 361.5, 362.1, 362.5, 364.1, 412, 413, 414, 440, 441, 443, 444, 446, 465, 466, 467, 518, 519, 523, 524, 530, 531, 542, 546 [IMAGE AVAILABLE]

L9:

25 of 50
TITLE: Pyrrolidine-containing monomers and oligomers
US PAT NO: 5,714,606 DATE ISSUED: Feb. 3, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/669,505 DATE FILED: Aug. 15, 1996
PCT-NO: PCT/US95/00356 PCT-FILED: Jan. 11, 1995
371-DATE: Aug. 15, 1996
102(E)-DATE: Aug. 13, 1995
PCT-PUB-NO: WO95/18792 PCT-PUB-DATE: Jul. 13, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 180,134, Jan. 11, 1994, Pat. No. 5,519,134.

26. 5,714,597, Feb. 3, 1998, Use of carbocation scavenger during oligonucleotide synthesis; Vasulinga Ravikumar, et al., 536/25.31, 25.3, 25.33, 25.34 [IMAGE AVAILABLE]

L9:

26 of 50
TITLE: Use of carbocation scavenger during oligonucleotide synthesis
US PAT NO: 5,714,597 DATE ISSUED: Feb. 3, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/613,036 DATE FILED: Mar. 8, 1996
REL-US-DATA: Continuation of Ser. No. 271,181, Jul. 7, 1994, Pat. No. 5,510,476.

27. 5,714,332, Feb. 3, 1998, Anti .alpha.-gal screening technique; Alexander R. Lussow, et al., 435/7.1, 7.2, 7.21; 436/519; 530/300 [IMAGE AVAILABLE]

L9:

27 of 50
TITLE: Anti .alpha.-gal screening technique
US PAT NO: 5,714,332 DATE ISSUED: Feb. 3, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/740,166 DATE FILED: Oct. 22, 1996

28. 5,702,672, Dec. 30, 1997, Apparatus and method for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1, 305.2; 530/333, 334 [IMAGE AVAILABLE]

L9:

28 of 50
TITLE: Apparatus and method for multiple simultaneous synthesis
US PAT NO: 5,702,672 DATE ISSUED: Dec. 30, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/540,512 DATE FILED: Oct. 10, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 430,696, Apr. 28, 1995, Pat. No. 5,612,002, which is a division of Ser. No. 217,347, Mar. 24, 1994, abandoned, which is a division of Ser. No. 12,557, Feb. 2, 1993, Pat. No. 5,324,483, which is a continuation-in-part of Ser. No. 958,383, Oct. 8, 1992, abandoned.

29. 5,695,934, Dec. 9, 1997, Massively parallel sequencing of sorted
polynucleotides; Sydney Brenner, 435/6; 536/24.3 [IMAGE AVAILABLE]

L9:

29 of 50
TITLE: Massively parallel sequencing of sorted polynucleotides
US PAT NO: 5,695,934 DATE ISSUED: Dec. 9, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/359,295 DATE FILED: Dec. 19, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 322,348, Oct. 13, 1994,
abandoned.

30. 5,688,997, Nov. 18, 1997, Process for preparing intermediates for a
combinatorial dihydrobenzopyran library; John J. Baldwin, et al.,
562/435; 435/7.1; 560/21 [IMAGE AVAILABLE]

L9:

30 of 50
TITLE: Process for preparing intermediates for a combinatorial
dihydrobenzopyran library
US PAT NO: 5,688,997 DATE ISSUED: Nov. 18, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/482,488 DATE FILED: Jun. 7, 1995
REL-US-DATA: Division of Ser. No. 436,120, May 8, 1995, which is a
continuation-in-part of Ser. No. 239,302, May 6, 1994,
abandoned.

31. 5,663,046, Sep. 2, 1997, Synthesis of combinatorial libraries; John
J. Baldwin, et al., 435/6, 7.1; 436/501, 518, 531, 533; 530/333, 334;
536/18.5, 25.3 [IMAGE AVAILABLE]

L9:

31 of 50
TITLE: Synthesis of combinatorial libraries
US PAT NO: 5,663,046 DATE ISSUED: Sep. 2, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/263,804 DATE FILED: Jun. 22, 1994

32. 5,654,413, Aug. 5, 1997, Compositions for sorting polynucleotides;
Sydney Brenner, 536/22.1; 435/6, 320.1; 536/24.2 [IMAGE AVAILABLE]

L9:

32 of 50
TITLE: Compositions for sorting polynucleotides
US PAT NO: 5,654,413 DATE ISSUED: Aug. 5, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/484,712 DATE FILED: Jun. 7, 1995
REL-US-DATA: Continuation of Ser. No. 358,810, Dec. 19, 1994, which is
a continuation-in-part of Ser. No. 322,348, Oct. 13,
1994, abandoned.

33. 5,635,598, Jun. 3, 1997, Selectively cleavabe linners based on
iminodiacetic acid esters for solid phase peptide synthesis; Michal Lebl,
et al., 530/334, 343, 345 [IMAGE AVAILABLE]

L9:

33 of 50
TITLE: Selectively cleavabe linners based on iminodiacetic acid
esters for solid phase peptide synthesis
US PAT NO: 5,635,598 DATE ISSUED: Jun. 3, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/263,289 DATE FILED: Jun. 21, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 81,997, Jun. 23, 1993,
abandoned, which is a continuation-in-part of Ser. No.
80,388, Jun. 21, 1993, abandoned.

34. 5,635,400, Jun. 3, 1997, Minimally cross-hybridizing sets of
oligonucleotide tags; Sydney Brenner, 435/320.1, 6; 536/22.1, 24.2 [IMAGE
AVAILABLE]

L9:

34 of 50
TITLE: Minimally cross-hybridizing sets of oligonucleotide tags
US PAT NO: 5,635,400 DATE ISSUED: Jun. 3, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/478,238 DATE FILED: Jun. 7, 1995
REL-US-DATA: Continuation of Ser. No. 358,810, Dec. 19, 1994, which is
a continuation-in-part of Ser. No. 322,348, Oct. 13,
1994, abandoned.

35. 5,618,825, Apr. 8, 1997, Combinatorial sulfonamide library; John J.
Baldwin, et al., 514/317, 330; 546/227, 229, 232, 233, 234, 235; 548/543,
556, 569 [IMAGE AVAILABLE]

L9:

35 of 50
TITLE: Combinatorial sulfonamide library
US PAT NO: 5,618,825 DATE ISSUED: Apr. 8, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/482,489 DATE FILED: Jun. 7, 1995
REL-US-DATA: Division of Ser. No. 212,024, Mar. 11, 1994.

36. 5,604,097, Feb. 18, 1997, Methods for sorting polynucleotides using
oligonucleotide tags; Sydney Brenner, 435/6; 536/25.4 [IMAGE AVAILABLE]

L9:

36 of 50
TITLE: Methods for sorting polynucleotides using oligonucleotide
tags
US PAT NO: 5,604,097 DATE ISSUED: Feb. 18, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/358,810 DATE FILED: Dec. 19, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 322,348, Oct. 13, 1994,
abandoned.

37. 5,587,471, Dec. 24, 1996, Method of making oligonucleotide
libraries; Phillip D. Cook, et al., 536/25.3, 25.4, 25.41 [IMAGE
AVAILABLE]

L9:

37 of 50
TITLE: Method of making oligonucleotide libraries
US PAT NO: 5,587,471 DATE ISSUED: Dec. 24, 1996
[IMAGE AVAILABLE]

APPL-NO: 08/179,972 DATE FILED: Jan. 11, 1994

38. 5,567,391, Oct. 22, 1996, Apparatus for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1, 305.2 [IMAGE AVAILABLE]

L9:

38 of 50
TITLE: Apparatus for multiple simultaneous synthesis
US PAT NO: 5,567,391 DATE ISSUED: Oct. 22, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/464,161 DATE FILED: Jun. 5, 1995
REL-US-DATA: Continuation of Ser. No. 430,696, Apr. 28, 1995, which is a continuation of Ser. No. 217,347, Mar. 24, 1994, abandoned, which is a division of Ser. No. 12,557, Feb. 2, 1993, Pat. No. 5,324,483, Jun. 28, 1994, which is a continuation-in-part of Ser. No. 958,383, Oct. 8, 1992, abandoned.

39. 5,565,173, Oct. 15, 1996, Apparatus and method for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1, 305.2 [IMAGE AVAILABLE]

L9:

39 of 50
TITLE: Apparatus and method for multiple simultaneous synthesis
US PAT NO: 5,565,173 DATE ISSUED: Oct. 15, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/461,998 DATE FILED: Jun. 5, 1995
REL-US-DATA: Continuation of Ser. No. 430,696, Apr. 28, 1995, which is a continuation of Ser. No. 217,347, Mar. 24, 1994, abandoned, which is a division of Ser. No. 12,557, Feb. 2, 1993, Pat. No. 5,324,483, Jun. 28, 1994, which is a continuation-in-part of Ser. No. 958,383, Oct. 8, 1992, abandoned.

40. 5,554,501, Sep. 10, 1996, Biopolymer synthesis using surface activated biaxially oriented polypropylene; Peter J. Coassin, et al., 435/6; 436/63, 89, 94; 530/334; 536/25.3 [IMAGE AVAILABLE]

L9:

40 of 50
TITLE: Biopolymer synthesis using surface activated biaxially oriented polypropylene
US PAT NO: 5,554,501 DATE ISSUED: Sep. 10, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/145,939 DATE FILED: Oct. 29, 1993
REL-US-DATA: Continuation-in-part of Ser. No. 971,100, Oct. 29, 1992, abandoned.

41. 5,549,974, Aug. 27, 1996, Methods for the solid phase synthesis of thiazolidinones, metathiazanones, and derivatives thereof; Christopher P. Holmes, 428/403, 406, 407, 411.1, 426, 457; 544/54; 548/182 [IMAGE AVAILABLE]

L9:

41 of 50
TITLE: Methods for the solid phase synthesis of thiazolidinones, metathiazanones, and derivatives thereof
US PAT NO: 5,549,974 DATE ISSUED: Aug. 27, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/265,090 DATE FILED: Jun. 23, 1994

42. 5,525,735, Jun. 11, 1996, Methods for synthesizing diverse collections of pyrrolidine compounds; Mark A. Gallop, et al., 548/533; 435/7.92; 436/518; 530/323; 548/400, 406, 453, 517, 518, 532, 536, 537, 541, 560, 565, 566, 570, 577 [IMAGE AVAILABLE]

L9:

42 of 50
TITLE: Methods for synthesizing diverse collections of pyrrolidine compounds
US PAT NO: 5,525,735 DATE ISSUED: Jun. 11, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/354,309 DATE FILED: Dec. 12, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 264,136, Jun. 22, 1994.

43. 5,510,476, Apr. 23, 1996, Carbocation scavenging during oligonucleotide synthesis; Vasulinga Ravikumar, et al., 536/25.31, 25.3, 25.33, 25.34 [IMAGE AVAILABLE]

L9:

43 of 50
TITLE: Carbocation scavenging during oligonucleotide synthesis
US PAT NO: 5,510,476 DATE ISSUED: Apr. 23, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/271,181 DATE FILED: Jul. 7, 1994

44. 5,480,971, Jan. 2, 1996, Peralkylated oligopeptide mixtures; Richard A. Houghten, et al., 530/328, 329 [IMAGE AVAILABLE]

L9:

44 of 50
TITLE: Peralkylated oligopeptide mixtures
US PAT NO: 5,480,971 DATE ISSUED: Jan. 2, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/257,782 DATE FILED: Jun. 9, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 79,144, Jun. 17, 1993.

45. 5,403,711, Apr. 4, 1995, Nucleic acid hybridization and amplification method for detection of specific sequences in which a complementary labeled nucleic acid probe is cleaved; Joseph A. Walder, et al., 435/6, 91.2; 536/24.3 [IMAGE AVAILABLE]

L9:

45 of 50
TITLE: Nucleic acid hybridization and amplification method for detection of specific sequences in which a complementary labeled nucleic acid probe is cleaved

US PAT NO: 5,403,711 DATE ISSUED: Apr. 4, 1995
[IMAGE AVAILABLE]
APPL-NO: 08/088,622 DATE FILED: Jul. 6, 1993
REL-US-DATA: Continuation of Ser. No. 757,555, Sep. 11, 1991, abandoned, which is a continuation of Ser. No. 173,127, Mar. 24, 1988, abandoned, which is a continuation-in-part of Ser. No. 126,564, Nov. 30, 1987, abandoned.

46. 5,324,483, Jun. 28, 1994, Apparatus for multiple simultaneous synthesis; Donna R. Cody, et al., 422/131, 99, 101, 104 [IMAGE AVAILABLE]

L9: 46 of 50
TITLE: Apparatus for multiple simultaneous synthesis
US PAT NO: 5,324,483 DATE ISSUED: Jun. 28, 1994
[IMAGE AVAILABLE]
APPL-NO: 08/012,557 DATE FILED: Feb. 2, 1993
REL-US-DATA: Continuation-in-part of Ser. No. 958,383, Oct. 8, 1992, abandoned.

47. 5,286,789, Feb. 15, 1994, Solid phase multiple peptide synthesis; David Okrongly, et al., 525/54.11, 54.1, 333.6, 350, 374, 379; 530/333, 334, 335, 815, 816 [IMAGE AVAILABLE]

L9: 47 of 50
TITLE: Solid phase multiple peptide synthesis
US PAT NO: 5,286,789 DATE ISSUED: Feb. 15, 1994
[IMAGE AVAILABLE]
APPL-NO: 08/041,901 DATE FILED: Apr. 2, 1993
REL-US-DATA: Continuation of Ser. No. 671,671, Mar. 19, 1991, abandoned, which is a continuation of Ser. No. 357,987, May 26, 1989, abandoned.

48. 5,256,549, Oct. 26, 1993, Purification of synthetic oligomers; Michael S. Urdea, et al., 435/91.1, 91.3, 91.5; 530/334, 335, 336, 337, 344; 536/25.3, 25.31 [IMAGE AVAILABLE]

L9: 48 of 50
TITLE: Purification of synthetic oligomers
US PAT NO: 5,256,549 DATE ISSUED: Oct. 26, 1993
[IMAGE AVAILABLE]
APPL-NO: 07/517,526 DATE FILED: Apr. 27, 1990
REL-US-DATA: Continuation of Ser. No. 229,475, Aug. 3, 1988, abandoned, which is a continuation-in-part of Ser. No. 891,789, Jul. 30, 1986, abandoned, which is a continuation-in-part of Ser. No. 845,290, Mar. 28, 1986, abandoned.

49. 5,137,031, Aug. 11, 1992, Urine testing apparatus with urinary sediment device; Raouf A. Guirguis, 600/584, 575 [IMAGE AVAILABLE]

L9: 49 of 50
TITLE: Urine testing apparatus with urinary sediment device
US PAT NO: 5,137,031 DATE ISSUED: Aug. 11, 1992
[IMAGE AVAILABLE]
APPL-NO: 07/567,758 DATE FILED: Aug. 15, 1990
REL-US-DATA: Continuation-in-part of Ser. No. 408,547, Sep. 18, 1989, Pat. No. 5,024,238, and a continuation-in-part of Ser. No. 411,041, Sep. 22, 1989, Pat. No. 4,953,561.

50. 4,636,463, Jan. 13, 1987, Antibodies to human interleukin-2 induced by synthetic polypeptides; Amnon Altman, et al., 435/7.92; 210/502.1; 424/85.2; 435/7.93, 7.94, 810, 975; 436/547, 808, 823; 514/14; 530/300, 326, 327, 351, 387.9, 389.2; 930/10, 141, DIG.811 [IMAGE AVAILABLE]

L9: 50 of 50
TITLE: Antibodies to human interleukin-2 induced by synthetic polypeptides
US PAT NO: 4,636,463 DATE ISSUED: Jan. 13, 1987
[IMAGE AVAILABLE]
APPL-NO: 06/597,179 DATE FILED: Apr. 5, 1984

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          46424 CLEAV####
         537964 RELEAS###
        1283318 SEPARAT####
         814989 SUPPORT#
         379703 LINK?
           2825 SUPPORT# OF LINK?
                  (SUPPORT#(1W)LINK?)
            130 (CLEAV#### OR RELEAS### OR SEPARAT####)
(15A) (SUPPORT# OF
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                K?)
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SEPARAT####) (15A) (SUPPO
RT#
                 OF LINK?)
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1. 5,877,214, Mar. 2, 1999, Polyaryl-poly(ethylene glycol) supports for solution-phase combinatorial synthesis; Ronald M. Kim, 514/571, 576, 650; 562/42, 426, 452, 470; 564/337, 346, 348, 355; 568/62, 607, 609 [IMAGE AVAILABLE]

L10: 1 of 29
TITLE: Polyaryl-poly(ethylene glycol) supports for solution-phase combinatorial synthesis
US PAT NO: 5,877,214 DATE ISSUED: Mar. 2, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/923,299 DATE FILED: Sep. 4, 1997

SUMMARY:
BSUM(51)

By . . . the separation of the synthon from the polyvalent support it

is preferred that the synthon be attached via a chemically **cleavable** linker. Upon **cleavage** from the **support**, the **linked** synthons comprise discrete molecular entities which may be analyzed for their biological activity or physiochemical properties, or which may be. . .

2. 5,876,930, Mar. 2, 1999, Hybridization assay using self-quenching fluorescence probe; Kenneth J. Livak, et al., 435/6, 5, 91.1, 91.2; 536/24.3, 24.32, 24.33, 25.3, 25.32, 26.6 [IMAGE AVAILABLE]

L10:

2 of 29
TITLE: Hybridization assay using self-quenching fluorescence probe
US PAT NO: 5,876,930 DATE ISSUED: Mar. 2, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/558,303 DATE FILED: Nov. 15, 1995
REL-US-DATA: Continuation of Ser. No. 340,558, Nov. 16, 1994, Pat. No. 5,538,848.

SUMMARY:

BSUM(28)

The linkages between the solid **support**, the **linker** and the probe are preferably not **cleaved** during removal of base protecting groups under basic conditions at high temperature. Examples of preferred linkages include carbamate and amide. . .

DETDESC:

DETD(15)

The linkages between the solid **support**, the **linker** and the probe are preferably not **cleaved** during removal of base protecting groups under basic conditions at high temperature. Examples of preferred linkages include carbamate and amide. . .

3. 5,874,532, Feb. 23, 1999, Method for solution phase synthesis of oligonucleotides and peptides; Wolfgang Pieken, et al., 530/338, 322; 536/25.3, 25.34; 562/433 [IMAGE AVAILABLE]

L10:

3 of 29
TITLE: Method for solution phase synthesis of oligonucleotides and peptides
US PAT NO: 5,874,532 DATE ISSUED: Feb. 23, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/780,517 DATE FILED: Jan. 8, 1997

DETDESC:

DETD(176)

The . . . can contain a cleavable linker between the dienophile moiety and the resin or membrane, such as an amide bond. This **cleavable** linker allows facile regeneration of the dienophile **support**. **Linkers** such as these are well known to those skilled in the art.

4. 5,861,532, Jan. 19, 1999, Solid-phase synthesis of N-alkyl amides; Edward G. Brown, et al., 564/142; 436/85, 86; 564/133, 134, 135, 136, 137, 139 [IMAGE AVAILABLE]

L10:

4 of 29
TITLE: Solid-phase synthesis of N-alkyl amides
US PAT NO: 5,861,532 DATE ISSUED: Jan. 19, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/813,019 DATE FILED: Mar. 4, 1997

SUMMARY:

BSUM(21)

The . . . c) either acylating the N-alkylated solid support-bound linker, thereby generating an N-alkylated solid-support bound amide, or sulfonylating the N-alkylated solid **support**-bound **linker**, thereby generating an N-alkylated solid-support bound sulfonamide; and d) **cleaving** the N-alkylated solid support bound amide or sulfonamide, thereby generating the N-substituted carboxamide product or sulfonamide product, respectively.

5. 5,859,233, Jan. 12, 1999, Synthons for synthesis of oligonucleotide N3-P5 phosphoramidates; Bernard L. Hirschbein, et al., 536/26.1, 26.12, 26.14 [IMAGE AVAILABLE]

L10:

5 of 29
TITLE: Synthons for synthesis of oligonucleotide N3-P5 phosphoramidates
US PAT NO: 5,859,233 DATE ISSUED: Jan. 12, 1999
[IMAGE AVAILABLE]
APPL-NO: 08/771,789 DATE FILED: Dec. 20, 1996
REL-US-DATA: Continuation-in-part of Ser. No. 663,918, Jun. 14, 1996, which is a continuation-in-part of Ser. No. 603,566, Feb. 21, 1996, Pat. No. 5,684,143.

DETDESC:

DETD(19)

Even . . . phase oligonucleotide synthesis which involve irreversible coupling steps, considerable guidance in making selections concerning coupling conditions, protecting groups, solid phase **supports**, **linking** groups, deprotection reagents, reagents to **cleave** products from solid phase supports, purification of product, and the like, in the context of the present invention can be. . .

6. 5,846,731, Dec. 8, 1998, Peralkylated oligopeptide mixtures; Richard A. Houghten, et al., 435/7.1, 7.2, 7.32; 436/501, 518, 536; 530/323, 332, 333, 334, 345 [IMAGE AVAILABLE]

L10:

6 of 29
TITLE: Peralkylated oligopeptide mixtures

US PAT NO: 5,846,731 DATE ISSUED: Dec. 8, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/079,144 DATE FILED: Jun. 17, 1993

SUMMARY:

BSUM(130)

Once . . . dichloromethane, and the support-linked peralkylated peptide set (mixture pool) is then dried. The peralkylated oligopeptide sets can then be individually **cleaved** from the solid supports to provide free peralkylated oligopeptide sets, if desired, or a solid **support**-**linked** (-coupled) peralkylated oligopeptide set can be used without **cleavage** from the support.

7. 5,840,485, Nov. 24, 1998, Topologically segregated, encoded solid phase libraries; Michal Lebl, et al., 435/6, 7.1; 436/518; 530/300, 323; 536/23.1 [IMAGE AVAILABLE]

L10:

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TITLE: Topologically segregated, encoded solid phase libraries
US PAT NO: 5,840,485 DATE ISSUED: Nov. 24, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/249,830 DATE FILED: May 26, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 68,327, May 27, 1993, abandoned.

SUMMARY:

BSUM(9)

5.3 DEVELOPMENT AND USE OF **SEPARATE** PHASE SYNTHESIS **SUPPORTS** AND **LINKERS** IN ENCODED MOLECULAR LIBRARY SYNTHESES

DETDESC:

DETD(48)

5.3 Development and Use of **Separate** Phase Synthesis **Supports** and **Linkers** in Encoded Molecular Library Syntheses

8. 5,824,793, Oct. 20, 1998, Solid phase synthesis of oligonucleotide N3'-P5' phosphoramidates; Bernard L. Hirschbein, et al., 536/25.34, 25.3, 25.33 [IMAGE AVAILABLE]

L10:

8 of 29
TITLE: Solid phase synthesis of oligonucleotide N3'-P5' phosphoramidates
US PAT NO: 5,824,793 DATE ISSUED: Oct. 20, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/663,918 DATE FILED: Jun. 14, 1996
REL-US-DATA: Continuation-in-part of Ser. No. 603,566, Feb. 21, 1996, Pat. No. 5,684,143.

DETDESC:

DETD(18)

Even . . . phase oligonucleotide synthesis which involve irreversible coupling steps, considerable guidance in making selections concerning coupling conditions, protecting groups, solid phase **supports**, **linking** groups, deprotection reagents, reagents to **cleave** products from solid phase supports, purification of product, and the like, in the context of the present invention can be. . .

9. 5,821,130, Oct. 13, 1998, Combinatorial dihydrobenzopyran library; John J. Baldwin, et al., 436/518, 523, 524, 525, 526, 527, 528, 529, 530, 531; 564/183, 184, 186 [IMAGE AVAILABLE]

L10:

9 of 29
TITLE: Combinatorial dihydrobenzopyran library
US PAT NO: 5,821,130 DATE ISSUED: Oct. 13, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/552,698 DATE FILED: Nov. 3, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 436,120, May 8, 1995, abandoned, which is a continuation-in-part of Ser. No. 239,302, May 6, 1994, abandoned.

SUMMARY:

BSUM(157)

Compounds . . . UV light (.about.360 nm) in polar solvents such as DMSO, H.sub.2 O, or a lower alkanol such as MeOH to **cleave** the compounds of Formula II from the **support**/**linker** complex.

10. 5,763,193, Jun. 9, 1998, Peralkylated oligopeptide mixtures; Richard A. Houghten, et al., 435/7.1, 7.2, 7.21; 436/501, 518 [IMAGE AVAILABLE]

L10:

10 of 29
TITLE: Peralkylated oligopeptide mixtures
US PAT NO: 5,763,193 DATE ISSUED: Jun. 9, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/577,846 DATE FILED: Dec. 22, 1995
REL-US-DATA: Division of Ser. No. 257,782, Jun. 9, 1994, Pat. No. 5,480,971, which is a continuation-in-part of Ser. No. 79,144, Jun. 17, 1993.

SUMMARY:

BSUM(153)

Once . . . (IPA), three with DCM and one with methanol (MeOH) prior to drying. The peralkylated oligopeptide sets can then be individually **cleaved** from the solid supports to provide free peralkylated oligopeptide sets, if desired, or a solid **support**-**linked** (-coupled) peralkylated oligopeptide set can be used without **cleavage** from the support.

11. 5,756,810, May 26, 1998, Process of preparing 3-nitro benzoate compounds in lower alkanol; John J. Baldwin, et al., 560/20, 23 [IMAGE

AVAILABLE]

11 of 29
TITLE: Process of preparing 3-nitro benzoate compounds in lower alkanol
US PAT NO: 5,756,810 DATE ISSUED: May 26, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/714,065 DATE FILED: Sep. 11, 1996
PCT-NO: PCT/US95/03223 PCT-FILED: Mar. 10, 1995
371-DATE: Sep. 11, 1996
102(E)-DATE: Sep. 11, 1996
PCT-PUB-NO: WO95/24186 PCT-PUB-DATE: Sep. 14, 1995

SUMMARY:

BSUM(137)

The . . . Y. Compound 7 is then either exposed to UV light (.about.360 nm) in a lower alkanol such as MeOH to **cleave** the protected form of the compounds of Formula II from the **support**/**linker** complex or first treated with TFA/thioanisole/EDT to remove the protecting groups on the R.sup.2 sidechains and then exposed to UV. . .

12. 5,723,591, Mar. 3, 1998, Self-quenching fluorescence probe; Kenneth J. Livak, et al., 536/22.1, 23.1, 24.3, 25.3, 25.32 [IMAGE AVAILABLE]

L10:

12 of 29
TITLE: Self-quenching fluorescence probe
US PAT NO: 5,723,591 DATE ISSUED: Mar. 3, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/559,405 DATE FILED: Nov. 15, 1995
REL-US-DATA: Continuation of Ser. No. 340,558, Nov. 16, 1994, Pat. No. 5,538,848.

SUMMARY:

BSUM(28)

The linkages between the solid **support**, the **linker** and the probe are preferably not **cleaved** during removal of base protecting groups under basic conditions at high temperature. Examples of preferred linkages include carbamate and amide. . .

DETDESC:

DETD(15)

The linkages between the solid **support**, the **linker** and the probe are preferably not **cleaved** during removal of base protecting groups under basic conditions at high temperature. Examples of preferred linkages include carbamate and amide. . .

13. 5,714,606, Feb. 3, 1998, Pyrrolidine-containing monomers and oligomers; Oscar L. Acevedo, et al., 544/243, 35, 102, 104, 244, 262, 264, 267, 277, 299, 309, 311, 313, 314, 317, 335; 548/112, 314.7, 361.1,

L10: 361.5, 362.1, 362.5, 364.1, 412, 413, 414, 440, 441, 443, 444, 446, 465, 466, 467, 518, 519, 523, 524, 530, 531, 542, 546 [IMAGE AVAILABLE]

L10:

13 of 29
TITLE: Pyrrolidine-containing monomers and oligomers
US PAT NO: 5,714,606 DATE ISSUED: Feb. 3, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/669,505 DATE FILED: Aug. 15, 1996
PCT-NO: PCT/US95/00356 PCT-FILED: Jan. 11, 1995
371-DATE: Aug. 15, 1996
102(E)-DATE: Aug. 15, 1996
PCT-PUB-NO: WO95/18792 PCT-PUB-DATE: Jul. 13, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 180,134, Jan. 11, 1994, Pat. No. 5,519,134.

DETDESC:

DETD(19)

Chemical . . . the sequence of the oligomer. This is possible because the chemical reaction which defines the nature of the linkage is **separate** from the attachment of the monomer to the reactive group on the solid **support** (whether **linker** or the previous monomer). Specifically, when a phosphoramidite monomer is treated with tetrazole and added to the solid support which. . .

14. 5,714,332, Feb. 3, 1998, Anti .alpha.-gal screening technique; Alexander R. Lussow, et al., 435/7.1, 7.2, 7.21; 436/519; 530/300 [IMAGE AVAILABLE]

L10:

14 of 29
TITLE: Anti .alpha.-gal screening technique
US PAT NO: 5,714,332 DATE ISSUED: Feb. 3, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/740,166 DATE FILED: Oct. 22, 1996

SUMMARY:

BSUM(20)

In . . . of the chain while bound to a solid surface, which may be a particle, silicon chip, or other convenient solid **support**. The **linkage** which is involved will normally be either chemically or photolytically **cleavable**, so as to **release** the desired compound from the support. A wide variety of techniques have been developed for synthesizing oligomers and providing for. . .

15. 5,702,672, Dec. 30, 1997, Apparatus and method for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1, 305.2; 530/333, 334 [IMAGE AVAILABLE]

15 of 29 L10:

TITLE: Apparatus and method for multiple simultaneous synthesis
US PAT NO: 5,702,672 DATE ISSUED: Dec. 30, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/540,512 DATE FILED: Oct. 10, 1995
REL-US-DATA: Continuation-in-part of Ser. No. 430,696, Apr. 28, 1995, Pat. No. 5,612,002, which is a division of Ser. No. 217,347, Mar. 24, 1994, abandoned, which is a division of Ser. No. 12,557, Feb. 2, 1993, Pat. No. 5,324,483, which is a continuation-in-part of Ser. No. 958,383, Oct. 8, 1992, abandoned.

DETDESC:

DETD(252)

The three possible **cleavage** modes are illustrated. **Cleavage** 1 represents the third building block attacking the solid **support** **linkage** to **cleave** the final molecule. This provides structural vaiation at the former site of attachment to the support. **Cleavage** 2 represents a distal functionality attacking the solid **support** **linkage** to **cleave** the final molecule as a cyclized product. **Cleavage** 3 represents a **cleavage** by an invariant agent. This provides a constant functional group at the former site of attachment to the support. ##STR2##

16. 5,688,997, Nov. 18, 1997, Process for preparing intermediates for a combinatorial dihydrobenzopyran library; John J. Baldwin, et al., 562/435; 435/7.1; 560/21 [IMAGE AVAILABLE]

L10:

16 of 29

TITLE: Process for preparing intermediates for a combinatorial dihydrobenzopyran library
US PAT NO: 5,688,997 DATE ISSUED: Nov. 18, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/482,488 DATE FILED: Jun. 7, 1995
REL-US-DATA: Division of Ser. No. 436,120, May 8, 1995, which is a continuation-in-part of Ser. No. 239,302, May 6, 1994, abandoned.

SUMMARY:

BSUM(202)

Compounds . . . UV light (.about.360 nm) in polar solvents such as DMSO, H.sub.2 O, or a lower alkanol such as MeOH to **cleave** the compounds of Formula II from the **support**/**linker** complex.

17. 5,663,046, Sep. 2, 1997, Synthesis of combinatorial libraries; John J. Baldwin, et al., 435/6, 7.1; 436/501, 518, 531, 533; 530/333, 334; 536/18.5, 25.3 [IMAGE AVAILABLE]

L10:

17 of 29

TITLE: Synthesis of combinatorial libraries
US PAT NO: 5,663,046 DATE ISSUED: Sep. 2, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/263,804 DATE FILED: Jun. 22, 1994

SUMMARY:

BSUM(71)

The . . . Y. Compound 7 is then either exposed to UV light (.about.360 nm) in a lower alkanol such as MeOH to **cleave** the protected form of the compounds of Formula II from the **support**/**linker** complex or first treated with TFA/thioanisole/EDT to remove the protecting groups on the R.sup.2 sidechains and then exposed to UV. . .

18. 5,635,598, Jun. 3, 1997, Selectively cleavabe linners based on iminodiacetic acid esters for solid phase peptide synthesis; Michal Lebl, et al., 530/334, 343, 345 [IMAGE AVAILABLE]

L10:

18 of 29

TITLE: Selectively cleavabe linners based on iminodiacetic acid esters for solid phase peptide synthesis
US PAT NO: 5,635,598 DATE ISSUED: Jun. 3, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/263,289 DATE FILED: Jun. 21, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 81,997, Jun. 23, 1993, abandoned, which is a continuation-in-part of Ser. No. 80,388, Jun. 21, 1993, abandoned.

SUMMARY:

BSUM(45)

L10:

The . . . directed to solid phase supports comprising more than one cleavable linker, in which at least one such linker can be **cleaved** with formation of a cyclic structure, e.g., a diketopiperazine, attached to the solid phase **support**. The **linkers** can further comprise a linker such that upon **cleavage**, the diketopiperazine is attached to the **released** peptide. In a further embodiment, the ester bond linkage can be to a reactive carboxylic acid, such as hydroxymethylbenzoic acid..
. .

DETDESC:

DETD(19)

In one embodiment, the linkers of the invention **release** a peptide alcohol upon formation of a diketopiperazine, which remains on the solid phase **support**. Such **linkers** are termed herein "diketopiperazine (DKP) linkers." The present invention is based in part on the observation that peptide coupled to. . .

19. 5,618,825, Apr. 8, 1997, Combinatorial sulfonamide library; John J.

Baldwin, et al., 514/317, 330; 546/227, 229, 232, 233, 234, 235; 548/543,
556, 569 [IMAGE AVAILABLE]

19 of 29
TITLE: Combinatorial sulfonamide library
US PAT NO: 5,618,825 DATE ISSUED: Apr. 8, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/482,489 DATE FILED: Jun. 7, 1995
REL-US-DATA: Division of Ser. No. 212,024, Mar. 11, 1994.

SUMMARY:

BSUM(112)

The . . . Y. Compound 7 is then either exposed to UV light
(.about.360 nm) in a lower alkanol such as MeOH to **cleave** the
protected form of the compounds of Formula II from the
support/**linker** complex or first treated with TFA/thioanisole/EDT
to remove the protecting groups on the R.sup.2 sidechains and then
exposed to UV. . .

20. 5,587,471, Dec. 24, 1996, Method of making oligonucleotide
libraries; Phillip D. Cook, et al., 536/25.3, 25.4, 25.41 [IMAGE
AVAILABLE]

L10:

20 of 29
TITLE: Method of making oligonucleotide libraries
US PAT NO: 5,587,471 DATE ISSUED: Dec. 24, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/179,972 DATE FILED: Jan. 11, 1994

SUMMARY:

BSUM(4)

There . . . support-coupled monomeric repeating units, such as amino
acids, by reacting the monomeric units with solid supports and mixing the
solid **supports** **linked** to the monomeric units to form a reaction
product pool. Thereafter the reaction pool is **separated** into a number
of aliquots of equal weight and the process is repeated to produce
peptides of a desired length.

21. 5,567,391, Oct. 22, 1996, Apparatus for multiple simultaneous
synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1,
305.2 [IMAGE AVAILABLE]

L10:

21 of 29
TITLE: Apparatus for multiple simultaneous synthesis
US PAT NO: 5,567,391 DATE ISSUED: Oct. 22, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/464,161 DATE FILED: Jun. 5, 1995
REL-US-DATA: Continuation of Ser. No. 430,696, Apr. 28, 1995, which is
a continuation of Ser. No. 217,347, Mar. 24, 1994,
abandoned, which is a division of Ser. No. 12,557, Feb. 2, 1993, Pat. No. 5,324,483, Jun. 28, 1994, which is a
continuation-in-part of Ser. No. 958,383, Oct. 8, 1992,
abandoned.

DETDESC:

DETD(292)

The three possible **cleavage** models are illustrated. **Cleavage** 1
reprints the third building block attacking the solid **support**
linkage to **cleave** the final molecule, This provides structural
variation at the former site of attachment to the support. **Cleavage** 2
represents a distal functionality attacking the solid **support**
linkage to **cleave** the final molecule as a cyclized product.
Cleavage 3 represents a **cleavage** by an invariant agent. This
provides a constant functional group at the former site of attachment to
the support. ##STR2##

22. 5,565,173, Oct. 15, 1996, Apparatus and method for multiple
simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196;
435/304.1, 305.2 [IMAGE AVAILABLE]

L10:

22 of 29
TITLE: Apparatus and method for multiple simultaneous synthesis
US PAT NO: 5,565,173 DATE ISSUED: Oct. 15, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/461,998 DATE FILED: Jun. 5, 1995
REL-US-DATA: Continuation of Ser. No. 430,696, Apr. 28, 1995, which is
a continuation of Ser. No. 217,347, Mar. 24, 1994,
abandoned, which is a division of Ser. No. 12,557, Feb. 2, 1993, Pat. No. 5,324,483, Jun. 28, 1994, which is a
continuation-in-part of Ser. No. 958,383, Oct. 8, 1992,
abandoned.

DETDESC:

DETD(254)

The three possible **cleavage** model are illustrated. **Cleavage** 1
represents the third building block attacking the solid **support**
linkage to **cleave** the final molecule. This provides structural
variation at the former site of attachment to the support. **Cleavage** 2
represents a distal functionality attacking the solid **support**
linkage to **cleave** the final molecule as a cyclized product.
Cleavage 3 represents a **cleavage** by an invariant agent. This
provides a constant functional group at the former site of attachment to
the support. ##STR2##

23. 5,554,501, Sep. 10, 1996, Biopolymer synthesis using surface
activated biaxially oriented polypropylene; Peter J. Coassin, et al.,
435/6; 436/63, 89, 94; 530/334; 536/25.3 [IMAGE AVAILABLE]

L10:

23 of 29
TITLE: Biopolymer synthesis using surface activated biaxially oriented polypropylene
US PAT NO: 5,554,501 DATE ISSUED: Sep. 10, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/145,939 DATE FILED: Oct. 29, 1993
REL-US-DATA: Continuation-in-part of Ser. No. 971,100, Oct. 29, 1992, abandoned.

DETDESC:

DETD(64)

Additionally, . . . be utilized in conjunction with linkers and spacer arms for the synthesis of biopolymers. These can be amenable to either non-**cleavage** or **cleavage** protocols for non-removal or removal of the synthesized biopolymer from the polymer **support**. **Linkers** and spacer arms applicable to the synthesis of biopolymers, particularly oligonucleotides and peptides, are well known and varied and will. . .

24. 5,480,971, Jan. 2, 1996, Peralkylated oligopeptide mixtures; Richard A. Houghten, et al., 530/328, 329 [IMAGE AVAILABLE]

L10:

24 of 29
TITLE: Peralkylated oligopeptide mixtures
US PAT NO: 5,480,971 DATE ISSUED: Jan. 2, 1996
[IMAGE AVAILABLE]
APPL-NO: 08/257,782 DATE FILED: Jun. 9, 1994
REL-US-DATA: Continuation-in-part of Ser. No. 79,144, Jun. 17, 1993.

SUMMARY:

BSUM(150)

Once . . . (IPA), three with DCM and one with methanol (MeOH) prior to drying. The peralkylated oligopeptide sets can then be individually **cleaved** from the solid supports to provide free peralkylated oligopeptide sets, if desired, or a solid **support**-**linked** (-coupled) peralkylated oligopeptide set can be used without **cleavage** from the support.

25. 5,403,711, Apr. 4, 1995, Nucleic acid hybridization and amplification method for detection of specific sequences in which a complementary labeled nucleic acid probe is cleaved; Joseph A. Walder, et al., 435/6, 91.2; 536/24.3 [IMAGE AVAILABLE]

L10:

25 of 29
TITLE: Nucleic acid hybridization and amplification method for detection of specific sequences in which a complementary labeled nucleic acid probe is cleaved
US PAT NO: 5,403,711 DATE ISSUED: Apr. 4, 1995
[IMAGE AVAILABLE]
APPL-NO: 08/088,622 DATE FILED: Jul. 6, 1993
REL-US-DATA: Continuation of Ser. No. 757,555, Sep. 11, 1991, abandoned, which is a continuation of Ser. No. 173,127, Mar. 24, 1988, abandoned, which is a continuation-in-part of Ser. No. 126,564, Nov. 30, 1987, abandoned.

DETDESC:

DETD(34)

A . . . to remove protecting groups on the nucleotide bases (treatment with concentrated ammonia at 55.degree. C. for 6 to 10 hours) **cleave** this linkage readily. If the oligonucleotide is to remain bound to the **support** the **linkage** to the 3'-hydroxyl group must be changed to one not **cleaved** under these conditions. Suitable functional groups through which the 3'-OH may be attached include ether linkages, phosphate triesters, phosphate diesters. . .

26. 5,324,483, Jun. 28, 1994, Apparatus for multiple simultaneous synthesis; Donna R. Cody, et al., 422/131, 99, 101, 104 [IMAGE AVAILABLE]

L10:

26 of 29
TITLE: Apparatus for multiple simultaneous synthesis
US PAT NO: 5,324,483 DATE ISSUED: Jun. 28, 1994
[IMAGE AVAILABLE]
APPL-NO: 08/012,557 DATE FILED: Feb. 2, 1993
REL-US-DATA: Continuation-in-part of Ser. No. 958,383, Oct. 8, 1992, abandoned.

DETDESC:

DETD(254)

The three possible **cleavage** modes are illustrated. **Cleavage** 1 represents the third building block attacking the solid **support** **linkage** to **cleave** the final molecule. This provides structural variation at the former site of attachment to the support. **Cleavage** 2 represents a distal functionality attacking the solid **support** **linkage** to **cleave** the final molecule as a cyclized product. **Cleavage** 3 represents a **cleavage** by an invariant agent. This provides a constant functional group at the former site of attachment to the support. ##STR2##

27. 5,286,789, Feb. 15, 1994, Solid phase multiple peptide synthesis; David Okrongly, et al., 525/54.11, 54.1, 333.6, 350, 374, 379; 530/333, 334, 335, 815, 816 [IMAGE AVAILABLE]

L10:

27 of 29
TITLE: Solid phase multiple peptide synthesis
US PAT NO: 5,286,789 DATE ISSUED: Feb. 15, 1994
[IMAGE AVAILABLE]

APPL-NO: 08/041,901 DATE FILED: Apr. 2, 1993
REL-US-DATA: Continuation of Ser. No. 671,671, Mar. 19, 1991,
abandoned, which is a continuation of Ser. No. 357,987,
May 26, 1989, abandoned.

ABSTRACT:
Methods . . . cyclical addition of protected monomers. Reagents are
specifically selected to allow for efficient reproducible addition, while
maintaining transparency of the **support**. **Linkers** are provided
which permit retention of the oligopeptide to the surface or **release**
of the oligopeptide at completion of the preparation of the oligopeptide.
The oligopeptide bound to the support finds use in. . .

28. 5,137,031, Aug. 11, 1992, Urine testing apparatus with urinary
sediment device; Raouf A. Guirguis, 600/584, 575 [IMAGE AVAILABLE]

L10:

28 of 29
TITLE: Urine testing apparatus with urinary sediment device
US PAT NO: 5,137,031 DATE ISSUED: Aug. 11, 1992
[IMAGE AVAILABLE]
APPL-NO: 07/567,758 DATE FILED: Aug. 15, 1990
REL-US-DATA: Continuation-in-part of Ser. No. 408,547, Sep. 18, 1989,
Pat. No. 5,024,238, and a continuation-in-part of Ser.
No. 411,041, Sep. 22, 1989, Pat. No. 4,953,561.

SUMMARY:

BSUM(21)

TABLE 6

	%	Particle size	Column size	Cross-size	Column **support** **linking**	Ionic form (.mu.m)	i.d. (mm)	Examples of **separations**	Manufacturers
Aminex HPX-87N	8	Sodium	9	30 .times. 7.8				Raffinose, sucrose,	Bio-Rade
Aminex HPX-87K									

. . .

29. 4,636,463, Jan. 13, 1987, Antibodies to human interleukin-2 induced
by synthetic polypeptides; Amnon Altman, et al., 435/7.92; 210/502.1;
424/85.2; 435/7.93, 7.94, 810, 975; 436/547, 808, 823; 514/14; 530/300,
326, 327, 351, 387.9, 389.2; 930/10, 141, DIG.811 [IMAGE AVAILABLE]

L10:

29 of 29
TITLE: Antibodies to human interleukin-2 induced by synthetic polypeptides
US PAT NO: 4,636,463 DATE ISSUED: Jan. 13, 1987
[IMAGE AVAILABLE]
APPL-NO: 06/597,179 DATE FILED: Apr. 5, 1984

DETDESC:

DETD(108)

When . . . a variety of procedures. In any of those procedures, the
reversibly linked complex is dissociated into its component parts of
support-**linked** antibody and IL-2 followed by **separating** the
IL-2 from the linked-antibody to provide the purified lymphokine free
from the affinity sorbant.

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CLAIMS:

CLMS(10)

10. . . . comprising the steps of:
providing a substrate having a surface with linkers having an active site for oligonucleotide synthesis, the **linkers** being resistant to **cleavage** under **cleavage** conditions;
synthesizing an ensemble of sequence-specific oligonucleotides in an area of the substrate under a test condition, the oligonucleotides having active sites. . .

2. 5,679,773, Oct. 21, 1997, Reagants and methods for immobilized polymer synthesis and display; Christopher P. Holmes, 530/334; 430/56; 530/333, 345 [IMAGE AVAILABLE]

US PAT NO: 5,679,773 [IMAGE AVAILABLE] L12: 2 of 2

SUMMARY:

BSUM(6)

Improved . . . 90/15070) and Fodor et al., PCT Publication No. WO 92/10092, all incorporated herein by reference, disclose methods of forming vast **arrays** of peptides, oligonucleotides and other polymer sequences using, for example, **light-directed** synthesis techniques. See also, Fodor et al., Science, 251:767-777 (1991), also incorporated herein by reference for all purposes. These procedures. . .

DRAWING DESC:

DRWD(3)

FIGS. . . . linking group. FIGS. 2A and 2B show the reactions which produce the two thiazolidinones. FIGS. 2C and 2D show the **HPLC** chromatograms of the resulting thiazolidinones and illustrate the purity of each.

DETDESC:

DETD(121)

This method comprises first synthesizing a labeled polymer on a solid support. Subsequent **cleavage** of the labeled polymer from the **support** and comparison with known standards provides a confirmation of **synthesis** fidelity. The precise method of **synthesis** is not critical and can be carried out by any of the solid phase methods described in the General section. . .

DETDESC:

DETD(123)

The . . . groups, or spacers, L.sup.1 are not critical but are present to permit subsequent synthesis to proceed without interference from the **support**. However, the bond, spacer or linking group must be **cleavable** under conditions which do not degrade the **synthesized** polymer. The linking groups or spacers, when present (i.e., not a bond) are typically 3-50 atoms long and have a. . .

DETDESC:

DETD(176)

As . . . both 50% TFA/CH.sub.2 Cl.sub.2 and 95% TFA/H.sub.2 O for one hour. No decomposition of either linking group was observed by **HPLC**.

DETDESC:

DETD(179)

Commercially . . . with 100 .mu.L of 50% CH.sub.3 CN/H.sub.2 O and again centrifuged. The collected filtrates from each sample were analyzed by **HPLC** for the presence of thiazolidinone. See FIG. 2. The data indicated that both the thiazolidinones were produced in high purity. . .

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1. 5,843,655, Dec. 1, 1998, Methods for testing oligonucleotide arrays; Glenn McGall, 435/6; 436/518, 527, 528 [IMAGE AVAILABLE]

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TITLE:	Methods for testing oligonucleotide arrays		
US PAT NO:	5,843,655 [IMAGE AVAILABLE]	DATE ISSUED:	Dec. 1, 1998
APPL-NO:	08/531,155	DATE FILED:	Sep. 18, 1995

SUMMARY:

BSUM(13)

Also provided are methods of determining the extent of depurination of oligonucleotides synthesized on a substrate by spatially directed oligonucleotide synthesis. One method involves providing a substrate having a surface with linkers having an active site for oligonucleotide synthesis, the **linkers** being resistant to **cleavage** under **cleavage** conditions; **synthesizing** an ensemble of sequence-specific oligonucleotides in an area of the substrate, the oligonucleotides having active sites for attaching a detectable label; attaching a detectable label to the oligonuleotides in the ensemble; exposing the ensemble to a test condition; exposing the ensemble to cleavage conditions that cause cleavage of depurinated oligonucleotides; and determining the amount of detectable label in the area.

SUMMARY:

BSUM(14)

The other method for testing extent of depurination involves providing a substrate having a surface with linkers having an active site for oligonucleotide synthesis, the **linkers** being resistant to **cleavage** under **cleavage** conditions; **synthesizing** an ensemble of sequence-specific oligonucleotides in an area of the substrate by spatially directed oligonucleotide synthesis under a test condition, the oligonucleotides having active sites for attaching a detectable label; attaching a detectable label to the active sites; exposing the ensemble to cleavage conditions that cause cleavage of depurinated oligonucleotides; and determining the amount of detectable label in the area.

DETDESC:

DETD(3)

This invention provides methods for optimizing the production, storage and use of oligonucleotide **arrays** produced by spatially directed oligonucleotide synthesis and, in particular, **light-directed** oligonucleotide synthesis. The methods involve testing **arrays** produced under a variety of conditions used in the preparation of substrates, the synthesis of nucleic acids on those substrates and the post-production handling, storage, shipment or use of the manufactured biological chips. The invention also provides the ability to test many conditions on a single chip, allowing greater control over the testing process. Also, the ability to test a variety of combinations of conditions on a single chip provides increased flexibility and screening capacity. As used in quality control procedures for manufacturing oligonucleotide arrays, the methods can involve manufacturing the arrays in high volume, and testing selected arrays for various quality parameters such as nucleotide coupling efficiency; amount of deprotection of oligonucleotides; oligonucleotide integrity, e.g., amount of depurination; or amount of double stranded oligonucleotides in the array. Manufacturing arrays in high volume means manufacturing at least 10, 50, 500, 1000, 2000, 5000 or 10,000 oligonucleotide arrays per day from a single fabricating machine or in a single fabrication facility.

DETDESC:

DETD(5)

In one embodiment oligonucleotide **arrays** are synthesized at specific locations by **light-directed** oligonucleotide synthesis. The pioneering techniques of this method are disclosed in U.S. Pat. No. 5,143,854; PCT WO 92/10092; PCT WO 90/15070; and U.S. application Ser. Nos. 08/249,188, 07/624,120, and 08/082,937, incorporated herein by reference for all purposes. The basic strategy of this process is outlined in FIG. 1. The surface of a solid support modified with linkers and photolabile protecting groups (.sup..about. O--X) is illuminated (hv) through a photolithographic mask (M sub 1), yielding reactive hydroxyl

groups (HO) in the illuminated regions. A 3'-O-phosphoramidite-activated deoxynucleoside (protected at the 5'-hydroxyl with a photolabile group, T--X) is then presented to the surface and coupling occurs at sites that were exposed to light. Following the optional capping of unreacted active sites and oxidation, the substrate is rinsed and the surface is illuminated (hv) through a second mask (M.sub.2), to expose additional hydroxyl groups for coupling to the linker. A second 5'-protected, 3'-O-phosphoramidite-activated deoxynucleoside (C--X) is presented to the surface. The selective photodeprotection and coupling cycles are repeated until the desired set of products is obtained. Photolabile groups are then optionally removed and the sequence is, thereafter, optionally capped. Side chain protective groups, if present, are also removed. Since photolithography is used, the process can be miniaturized to generate high-density arrays of oligonucleotide probes. Furthermore, the sequence of the oligonucleotides at each site is known.

DETDESC:

DETD(59)

In another embodiment, fluorescent probes are employed in combination with CCD imaging systems. Details of this method are described in U.S. application Ser. No. 08/301,051, incorporated herein by reference in its entirely. In many commercially available microplate readers, typically the light source is placed above an array, and a photodiode detector is below the array. For the present methods, the light source can be replaced with a higher power lamp or laser. In one embodiment, the standard absorption geometry is used, but the photodiode detector is replaced with a CCD camera and imaging optics to allow rapid imaging of the array. A series of Raman holographic or notch filters can be used in the optical path to eliminate the excitation light while allowing the emission to pass to the detector. In a variation of this method, a fiber optic imaging bundle is utilized to bring the light to the CCD detector. In another embodiment, the laser is placed below the oligonucleotide array and light directed through the transparent wafer or base that forms the bottom of the oligonucleotide array. In another embodiment, the CCD array is built into the wafer of the oligonucleotide array.

CLAIMS:

CLMS(2)

2. A method for determining the amount of depurination of oligonucleotides synthesized on a substrate by spatially directed oligonucleotide synthesis comprising the steps of:
providing a substrate having a surface with linkers having an active site for oligonucleotide synthesis, the linkers being resistant to cleavage under cleavage conditions;
synthesizing an ensemble of sequence-specific oligonucleotides in an area of the substrate, the oligonucteotides having active sites for attaching a detectable label;
attaching a detectable label to the oligonucleotides in the ensemble;
exposing the ensemble to a test condition;
exposing the ensemble to cleavage conditions that cause cleavage of depurinated oligonucleotides; and
determining the amount of detectable label in the area, said amount of detectable label being a determination of said amount of depurination.

CLAIMS:

CLMS(10)

10. A method for determining the amount of depurination of oligonucleotides synthesized on a substrate by spatially directed oligonucleotide synthesis comprising the steps of:
providing a substrate having a surface with linkers having an active site for oligonucleotide synthesis, the linkers being resistant to cleavage under cleavage conditions;
synthesizing an ensemble of sequence-specific oligonucleotides in an area of the substrate under a test condition, the oligonucleotides having active sites for attaching a detectable label;
attaching a detectable label to the active sites;
exposing the ensemble to cleavage conditions that cause cleavage of depurinated oligonucleotides; and
determining the amount of detectable label in the area, said amount of detectable label being a determination of said amount of depurination.

2. 5,770,455, Jun. 23, 1998, Methods and apparatus for synthesizing labeled combinatorial chemistrylibraries; John Cargill, et al., 436/518; 435/4; 436/524, 525, 526, 527, 528; 530/334 [IMAGE AVAILABLE]

TITLE: Methods and apparatus for synthesizing labeled combinatorial chemistrylibraries
US PAT NO: 5,770,455 DATE ISSUED: Jun. 23, 1998
[IMAGE AVAILABLE]
APPL-NO: 08/480,438 DATE FILED: Jun. 7, 1995
REL-US-DATA: Division of Ser. No. 383,766, Feb. 2, 1995, which is a continuation-in-part of Ser. No. 180,863, Jan. 13, 1994, abandoned, which is a continuation-in-part of Ser. No. 92,863, Jul. 19, 1993, abandoned.

SUMMARY:

BSUM(53)

In another recent development, scientists combined the techniques of photolithography, chemistry and biology to create large collections of oligomers and other compounds on the surface of a substrate (this method is called "VLSIPS.TM."). See, for example, U.S. Pat. No. 5,143,854; PCT Publication No. 90/15070; PCT Publication No. 92/10092 entitled "Very Large Scale Immobilized Polymer Synthesis," Jun. 25, 1992; Fodor et al., "Light-Directed Spatially Addressable Parallel Chemical Synthesis," Science 251: 767-773 (1991); Pease et al., "Light-Directed Oligonucleotide Arrays for Rapid DNA Sequence Analysis," Proc. Natl. Acad. Sci. 91: 5022-5026 (1994); and Jacobs & Fodor, "Combinatorial Chemistry: Applications of Light-Directed Chemical Synthesis," Trends. Biotechnology 12(1): 19-26 (1994), each of which is incorporated herein by reference.

SUMMARY:

BSUM(98)

The present invention also relates to methods and apparatus for synthesizing labeled libraries of random oligomers. The random oligomers are generally synthesized on synthesis supports, but may be cleaved from these supports or synthesized in solution phase to provide a soluble library. In a preferred embodiment the oligomers are composed of a set of monomers, the monomers being any member of the set of atoms or molecules that can be joined together to form an oligomer or polymer. The library is then screened to isolate individual oligomers that bind to a receptor or possess some desired property. In a preferred embodiment, each oligomer structure in the library is unique.

3. 5,679,773, Oct. 21, 1997, Reagants and methods for immobilized polymer synthesis and display; Christopher P. Holmes, 530/334; 430/56; 530/333, 345 [IMAGE AVAILABLE]

L10: 3 of 5

TITLE: Reagants and methods for immobilized polymer synthesis and display
US PAT NO: 5,679,773 DATE ISSUED: Oct. 21, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/374,492 DATE FILED: Jan. 17, 1995

SUMMARY:

BSUM(6)

Improved methods of forming large arrays of oligonucleotides, peptides and other polymer sequences in a short period of time have been devised. Of particular note, Pirrung et al., U.S. Pat. No. 5,143,854 (see also PCT Application No. WO 90/15070) and Fodor et al., PCT Publication No. WO 92/10092, all incorporated herein by reference, disclose methods of forming vast arrays of peptides, oligonucleotides and other polymer sequences using, for example, light-directed synthesis techniques. See also, Fodor et al., Science, 251:767-777 (1991), also incorporated herein by reference for all purposes. These procedures are now referred to as VLSIPS.TM. procedures.

DETDESC:

DETD(121)

This method comprises first synthesizing a labeled polymer on a solid support. Subsequent cleavage of the labeled polymer from the support and comparison with known standards provides a confirmation of synthesis fidelity. The precise method of synthesis is not critical and can be carried out by any of the solid phase methods described in the General section above. In order to obtain a solid substrate-bound polymer having the formula above, the synthesis will typically proceed by first attaching a linking group or spacer, L.sup.1, to the solid support.

DETDESC:

DETD(123)

The linking groups, or spacers, L.sup.1 are not critical but are present to permit subsequent synthesis to proceed without interference from the support. However, the bond, spacer or linking group must be cleavable under conditions which do not degrade the synthesized polymer. The linking groups or spacers, when present (i.e., not a bond) are typically 3-50 atoms long and have a surface attaching portion and a functional group for covalent attachment to the label attaching group. The surface attaching portion is that part of L.sup.1 which is directly attached to the solid support. This portion can be attached to the solid support via carbon-carbon bonds using, for example, supports having (poly)trifluorochloroethylene surfaces, or preferably, by siloxane bonds (using, for example, glass or silicon oxide as the solid support). Siloxane bonds with the surface of the support are formed in one embodiment via reactions of surface attaching portions bearing trichlorosilyl or trialkoxysilyl groups. The spacer will also have a site for attachment of the label attaching group. For example, groups which are suitable for attachment to such a group would include amines, hydroxyl, thiol, and carboxyl. Thus, preferred linking groups or spacers, are those molecules derived from aminoalkylsilanes and hydroxyalkylsilanes. In particularly preferred embodiments, the spacer L.sup.1 is derived from bis(2-hydroxyethyl)aminopropyl-triethoxysilane, 2-hydroxyethylaminopropyltriethoxysilane, aminopropyltriethoxysilane or hydroxypropyltriethoxysilane.

4. 5,677,195, Oct. 14, 1997, Combinatorial strategies for polymer synthesis; James L. Winkler, et al., 436/518; 422/134, 149; 435/6, 7.92, 970, 973; 436/89, 527, 528; 530/333, 334, 335; 536/25.3, 25.31, 25.32 [IMAGE AVAILABLE]

L10: 4 of 5

TITLE:	Combinatorial strategies for polymer synthesis		
US PAT NO:	5,677,195	DATE ISSUED:	Oct. 14, 1997
	[IMAGE AVAILABLE]	DISCL-DATE:	Jan. 24, 2012
APPL-NO:	07/980,523	DATE FILED:	Nov. 20, 1992
REL-US-DATA:	Continuation-in-part of Ser. No. 796,243, Nov. 22, 1991, Pat. No. 5,384,261, and Ser. No. 874,849, Apr. 24, 1992, Pat. No. 5,412,087.		

SUMMARY:

BSUM(4)

Improved methods of forming large arrays of peptides, oligonucleotides, and other polymer sequences in a short period of time have been devised. Of particular note, Pirrung et al., U.S. Pat. No. 5,143,854 (see also PCT Application No. WO 90/15070) and Fodor et al., PCT Publication No. WO 92/10092, all incorporated herein by reference, disclose methods of forming vast arrays of peptides and other polymer sequences using, for example, light-directed synthesis techniques. See also, Fodor et al., Science (1991) 251:767-777, also incorporated herein by reference for all purposes.

DETDESC:

DETD(86)

By adjusting the thickness of the synthesis support matrix, the quantity of immobilized material in the reaction regions can be controlled. For example, relatively thin support synthesis matrices can be used to produce small amounts of surface bound oligomers for analysis, while thicker support matrices can be used to synthesize relatively large quantities of oligomers which can be cleaved from the support for further use. In the latter embodiment, a collector having dimensions matching the individual synthesis supports can be employed to collect oligomers that are ultimately freed from the reaction matrix.

5. 5,585,275, Dec. 17, 1996, Pilot apparatus for peptide synthesis and screening; Derek Hudson, et al., 436/518; 422/68.1, 99, 129; 436/523, 524, 527, 528, 529, 531; 530/333, 334 [IMAGE AVAILABLE]

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TITLE:	Pilot apparatus for peptide synthesis and screening		
US PAT NO:	5,585,275	DATE ISSUED:	Dec. 17, 1996
	[IMAGE AVAILABLE]		
APPL-NO:	08/079,741	DATE FILED:	Jun. 18, 1993
REL-US-DATA:	Continuation-in-part of Ser. No. 939,065, Sep. 2, 1992.		

SUMMARY:

BSUM(14)

The Affymax "chip" approach described in PCT publication WO90/10570, and in Fodor, P. A. et al, Science, 251 (1991) 767, is a method for multiple peptide synthesis on a solid support which uses synthesis and flourescent detection on the silica surfaces of flow through cells, photolabile protecting groups and **photolithographic** masking strategies to make **arrays**. Photolabilely-blocked amino groups are chemically attached (bonded) to a silicon chip, then irradiated through a patterned mask to selectively remove the blocking groups in a pre-arranged pattern. An amino acid will bond by addition only to the irradiation exposed areas. Additional masks are imposed and radiation applied as a prelude to adding second amino acids. Each amino acid added can include a blocking group so that further addition to that site occurs only after irradiation unblocking. Repeating the process with plural masks builds location specific polypeptides. When the chip is exposed to the target molecule, it may stick to one or more locations. By checking coordinates on a map of the chip, the peptide is identified. However, this process does not work with target molecules stuck to, or part of, cells, and there are exposure problems during processing, i.e., some AA's are light sensitive and cannot be used. Further, the reactions at the surface are not complete; for example, where reaction completion is only 90%, by the 6th iteration to obtain a hexapeptide, only half of them will be made properly.

DETDESC:

DETD(21)

Because of the effectiveness of the **support** system of this invention, the **separate** zones (one or more **support** address area(s)) can be functionalized for **synthesis** of peptides at loadings as low as about 0.001 micromoles per cm.sup.2 usually in the range of from about 0.05 to about 50.mu. mole/area, and 50-100 nmole loading for HPMP winks.